IN THE CLAIMS

Please amend claims 9 and 25 as follows.

1 (previously presented): An apparatus for adaptively controlling power consumption within an electronic system, said apparatus comprising:

an integrated circuit adapted to transmit voltage control information corresponding to a difference between a minimum operating voltage uniquely determined for the integrated circuit and a predetermined nominal voltage selected for a family of integrated circuits;

a storage element coupled to said integrated circuit, adapted to store said minimum operating voltage;

a variable voltage regulator coupled to said integrated circuit, adapted to receive said voltage control information from said integrated circuit, and supply an operating voltage to said integrated circuit in response to and representative of said voltage control information; and

a communication link coupled to said integrated circuit and said variable voltage regulator, adapted to link said integrated circuit to said variable voltage regulator so that said integrated circuit may transmit said voltage control information to said variable voltage regulator.

2 (previously presented): The apparatus of claim 1 wherein said minimum operating voltage is determined during external testing of said integrated circuit.

3 (original): The apparatus of claim 1 wherein said storage element is a nonvolatile memory.

4 (original): The apparatus of claim 1 further comprising a temperature sensing means coupled to said integrated circuit and adapted to measure and transmit temperature data to said integrated circuit.

5 (original): The apparatus of claim 4 wherein said integrated circuit is further adapted to modify

said voltage control information in response to said temperature data.

6 (previously presented): The apparatus of claim 1 further comprising a built-in-self-test circuit coupled to said integrated circuit, adapted to test said integrated circuit and determine said minimum operating voltage.

7 (original): The apparatus of claim 6 further comprising a temperature sensing means coupled to said integrated circuit and adapted to measure and transmit temperature data to said integrated circuit.

8 (original): The apparatus of claim 7 wherein said integrated circuit is further adapted to modify said voltage control information in response to said temperature data.

9 (currently amended): A method of adaptively controlling power consumption within an electronic system, said method comprising the steps of:

testing an integrated circuit to determine a minimum operating voltage ~~of~~ uniquely determined for said integrated circuit;

storing said minimum operating voltage;

transmitting a signal to a variable voltage regulator, wherein said signal corresponds to a difference between said minimum operating voltage and a predetermined nominal voltage selected for a family of integrated circuits;

programming an output voltage of said variable voltage regulator in response to and representative of said signal; and

supplying said output voltage to said integrated circuit.

10 (original): The method of claim 9 wherein said minimum operating voltage is determined during external testing of said integrated circuit.

11 (original): The method of claim 10 wherein said minimum operating voltage is determined by testing timing critical paths within said integrated circuit.

12 (original): The method of claim 9 wherein said minimum operating voltage is determined by

testing said integrated circuit with a built-in-self-test circuit.

13 (original): The method of claim 12 wherein said testing comprises the steps of:

initializing said built-in self-test circuit;

accessing test patterns;

executing said testing; and

adjusting said minimum operating voltage of said integrated circuit in response to said testing.

14 (original): The method of claim 13 wherein said test patterns exercise timing critical paths within said integrated circuit.

15 (original): The method of claim 9 further comprising:

measuring temperature data; and

transmitting said temperature data to said integrated circuit.

16 (original): The method of claim 15 further comprising modifying said signal in response to said temperature data.

17 (previously withdrawn): An apparatus for adaptively controlling operating frequency within an electronic system, said apparatus comprising:

an integrated circuit adapted to transmit voltage control information, wherein said voltage control information corresponds to a maximum operating voltage of said integrated circuit;

a programmable phase-locked-loop coupled to said integrated circuit, adapted to adjust operating frequency of said integrated circuitry in response to said voltage control information and a voltage/frequency response;

a storage element coupled to said integrated circuit, adapted to store said voltage control information;

a variable voltage regulator coupled to said integrated circuit, adapted to receive said voltage control information from said integrated circuit, and supply an operating

voltage to said integrated circuit in response to said voltage control information; and

a communication link coupled to said integrated circuit and said variable voltage regulator, adapted to link said integrated circuit to said variable voltage regulator so that said integrated circuit may transmit said voltage control information to said variable voltage regulator.

18 (previously withdrawn): The apparatus of claim 17 further comprising a temperature sensing means coupled to said integrated circuit and adapted to measure and transmit temperature data to said integrated circuit, wherein said integrated circuit is further adapted to modify said voltage control information in response to said temperature data.

19 (previously withdrawn): The apparatus of claim 17 further comprising a built-in-self-test circuit coupled to said integrated circuit and adapted to test said integrated circuit.

20 (previously withdrawn): A method of adaptively controlling operating frequency within an electronic system, said method comprising the steps of:

initializing an integrated circuit to a nominal operating frequency;

determining an optimal operating frequency for said integrated circuit;

transmitting a signal to a programmable phase-locked-loop, wherein said signal corresponds to said optimal operating frequency of said integrated circuit; and

programming output frequency of said programmable phase-locked-loop, wherein said output frequency corresponds to said signal.

21 (previously withdrawn): The method of claim 20 wherein said optimal operating frequency is determined from a maximum operating voltage and a voltage/frequency response.

22 (previously withdrawn): The method of claim 20 wherein said maximum operating voltage is determined by testing said integrated circuit with a built-in-self-test circuit.

23 (previously withdrawn): The method of claim 20 further comprising:

measuring temperature data; and

transmitting said temperature data to said integrated circuit.

24 (previously withdrawn): The method of claim 23 further comprising modifying said signal in response to said temperature data.

25 (currently amended): A power control arrangement, comprising:

means for testing an integrated circuit to determine a minimum operating voltage ~~of~~uniquely determined for said integrated circuit;

means for storing said minimum operating voltage;

means for transmitting a signal to a variable voltage regulator, wherein said signal corresponds to a difference between said minimum operating voltage and a predetermined nominal voltage selected for a family of integrated circuits;

means for programming an output voltage of said variable voltage regulator in response to and representative of said signal; and

means for supplying said output voltage to said integrated circuit.